



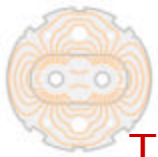
Hardware Commissioning: an update

1. The schedule
 - very short term
 - short term
 - the rest
2. The Hardware Commissioning Teams
 - their functions
 - their composition
3. The employment conditions of the US collaborators to Hardware Commissioning
4. Most wanted



the LHC general coordination schedule

- ❑ was published last Friday check the LHC Project Home Page
- ❑ three phases
 - installation and commissioning from Q1 to Q5 left of 8
 - installation and commissioning of sectors 78 & 81 followed by the sector test
 - the rest
- ❑ the message from Project Management is: focus on 2005 to validate the present schedule
 - installation & assembly of the QRL
 - preparation, transport, installation & interconnection of magnets
 - the commissioning of two sectors in parallel
 - installation and commissioning of infrastructures and utilities does not seem to pose any problem

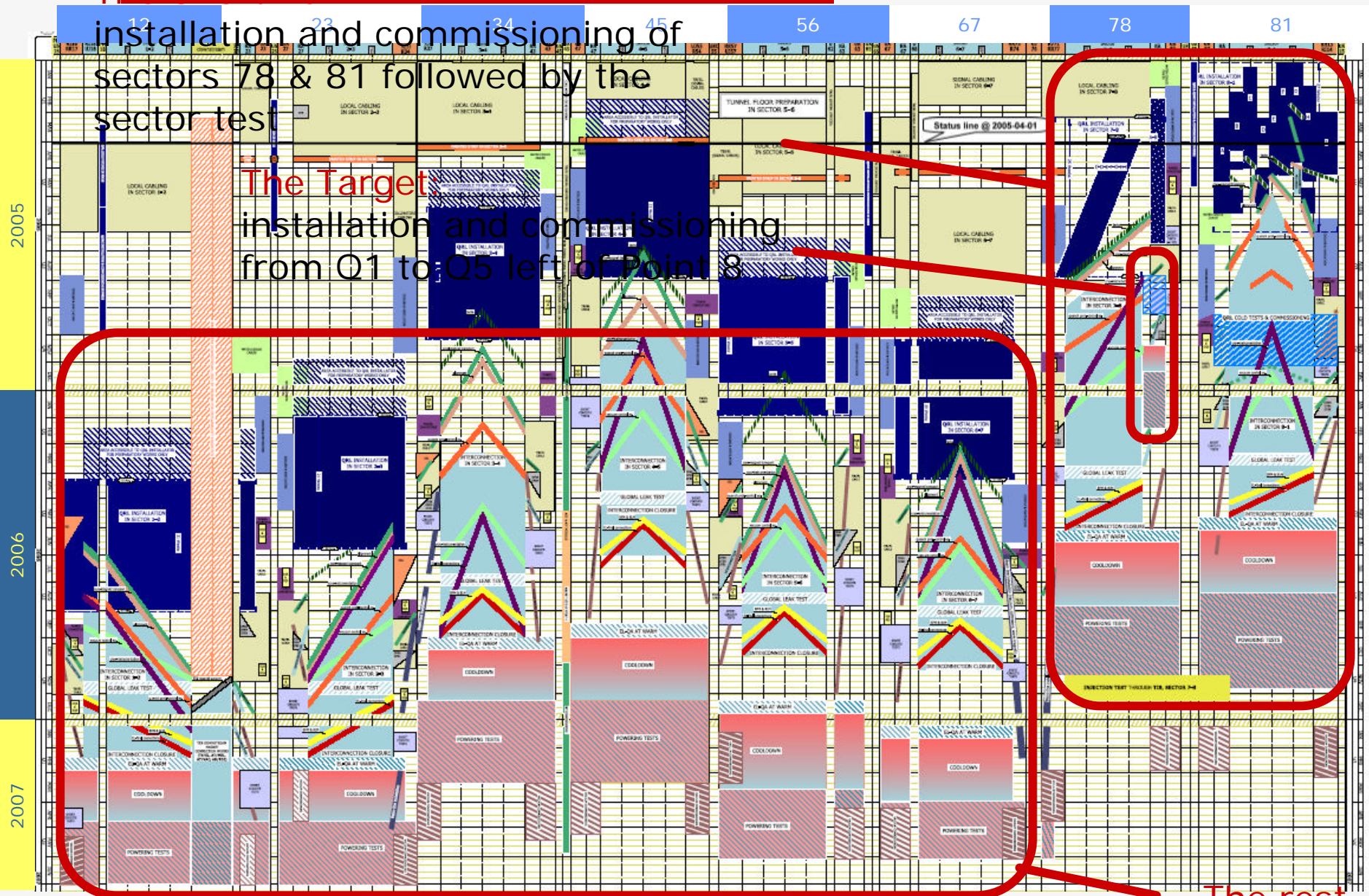


the LHC general coordination schedule

The Short Term

installation and commissioning of sectors 78 & 81 followed by the sector test

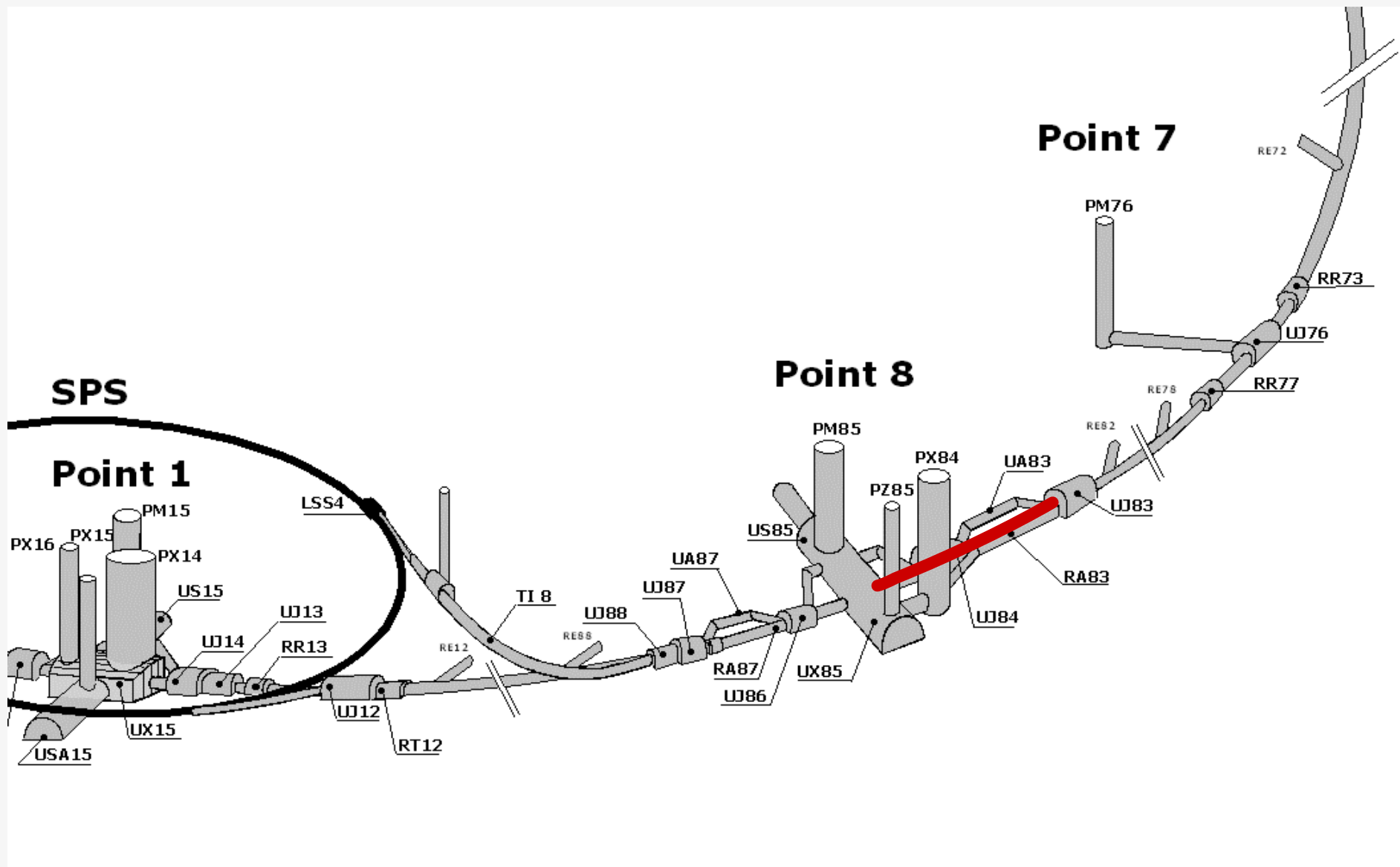
The Target:
installation and commissioning
from Q1 to Q5 left of Point 8



The rest



the target



the target

September 2005 – April 2006

Installation of
power converters

Cabling

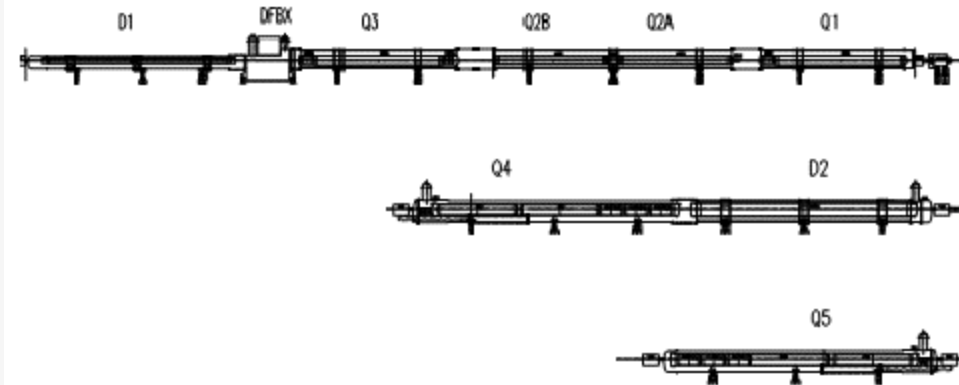
Short circuit tests

QRL cold tests

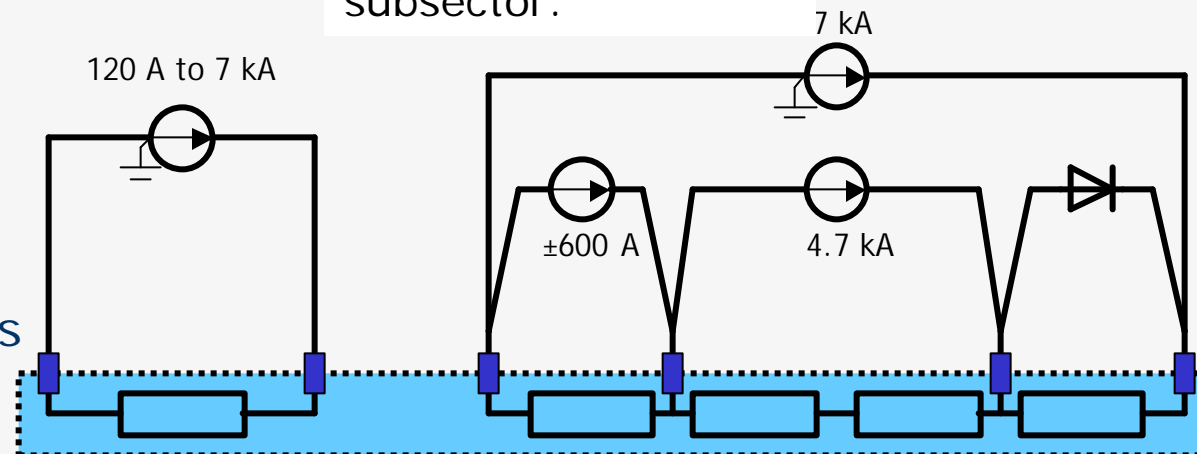
Interconnects

Cooldown

Power tests



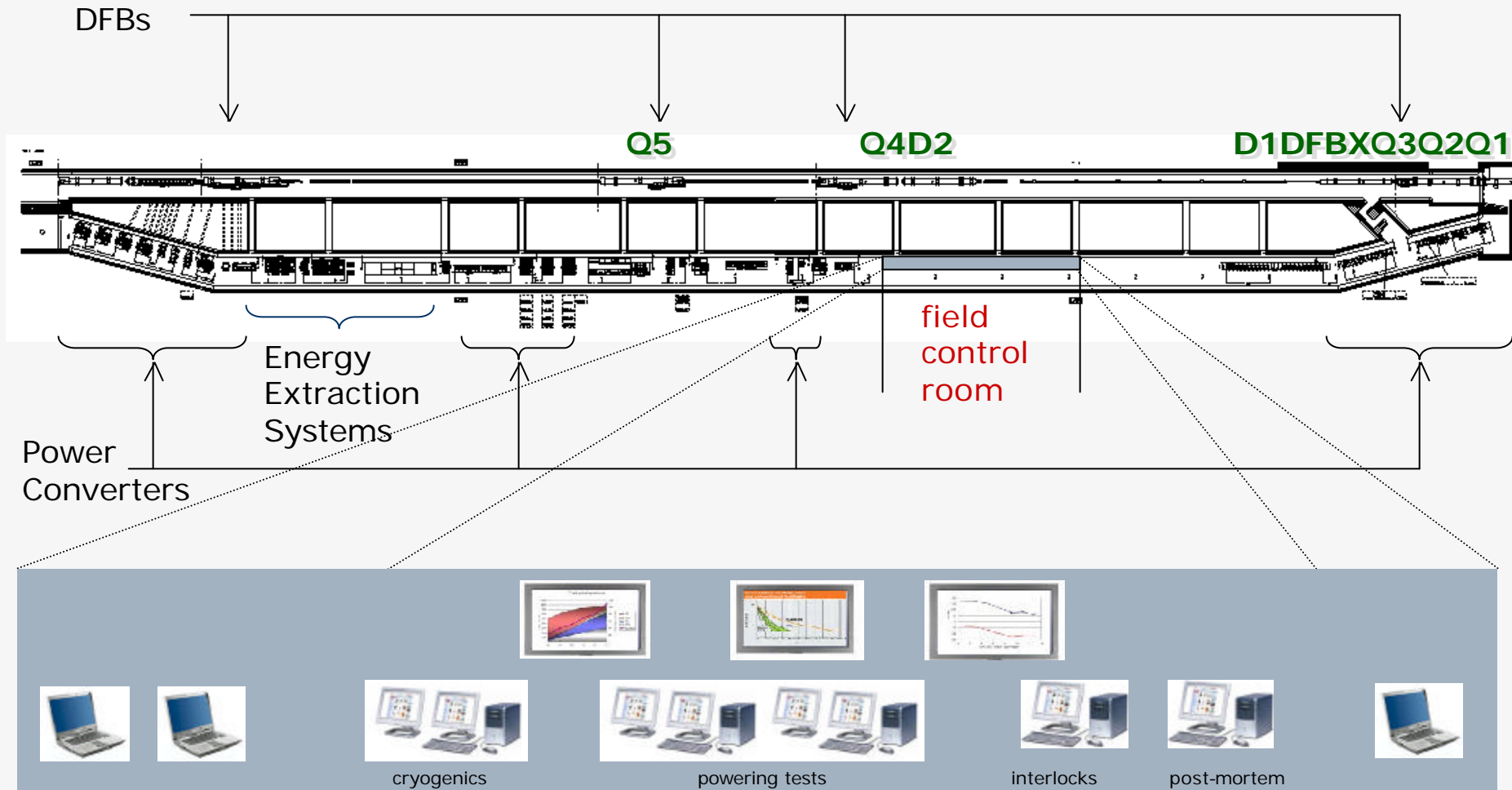
29 superconducting
electrical circuits, 14
of which in the inner
triplet cryogenic
subsector.





the field control room

UA 83 – Left of Point 8



+ wi-fi coverage of the UA
+ printer

+ desks
+ meeting table
+ lockable closets

+ social corner
+ coffee machine
+ water fountain



78

81

the short term

validations

1 production,
installation &
assembly of the QRL

2 preparation,
transport,
installation &
interconnection of
magnets

3 feasibility of the
individual system
tests and the
commissioning for
two sectors in
parallel

Cooldown

Power tests

Injection test

today →

15 apr 2006

02 jun 2006

25 nov 2006

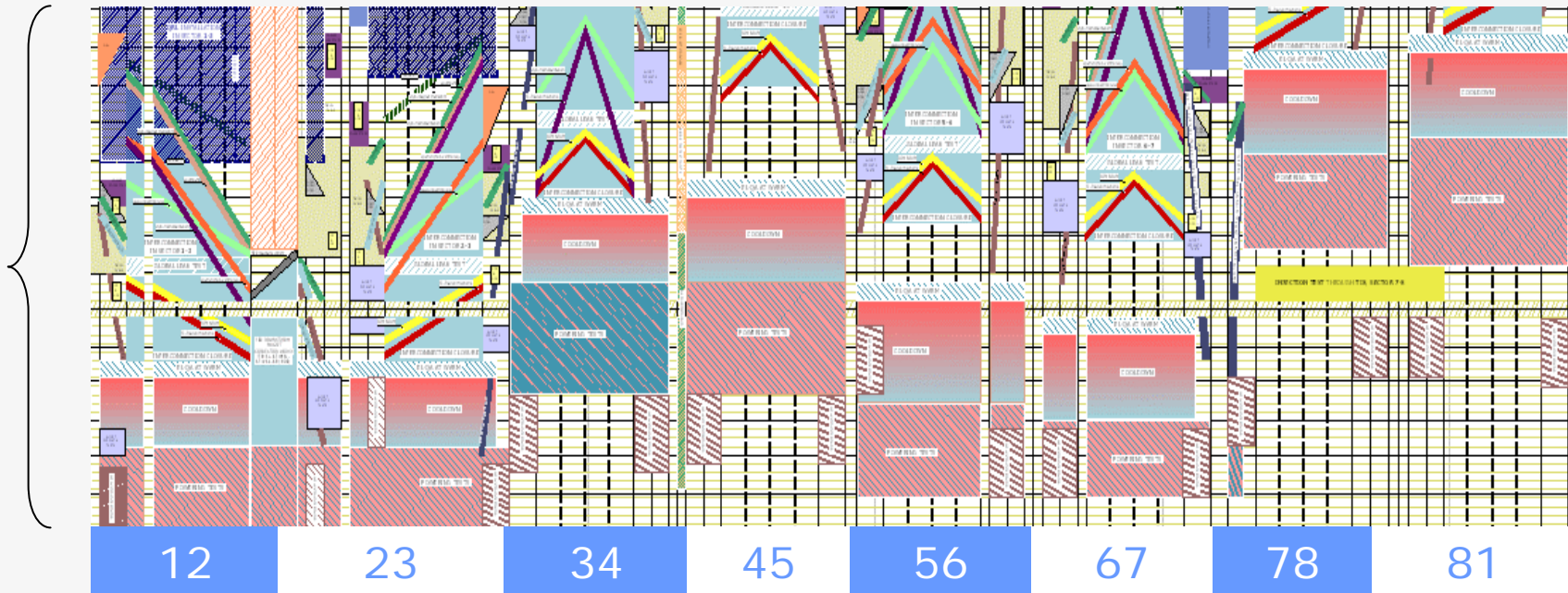
RSaban

LARP: Hardware Commissioning - Port Jefferson 050406



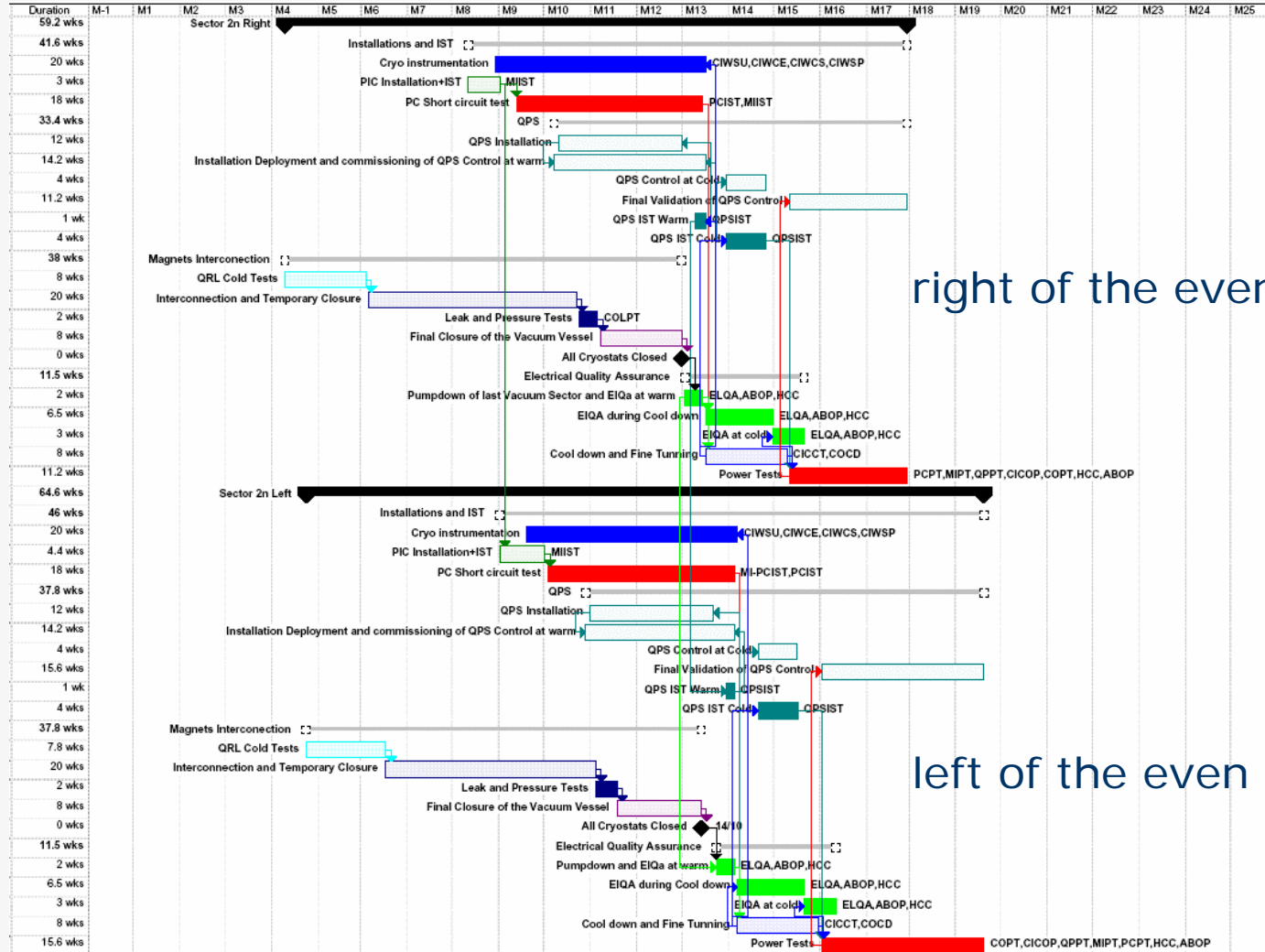
the rest

from May 2006 to July 2007
cooldown + power tests



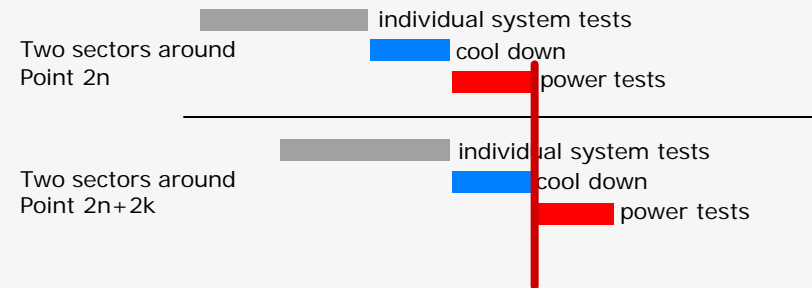
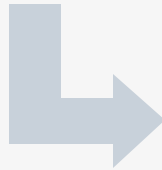
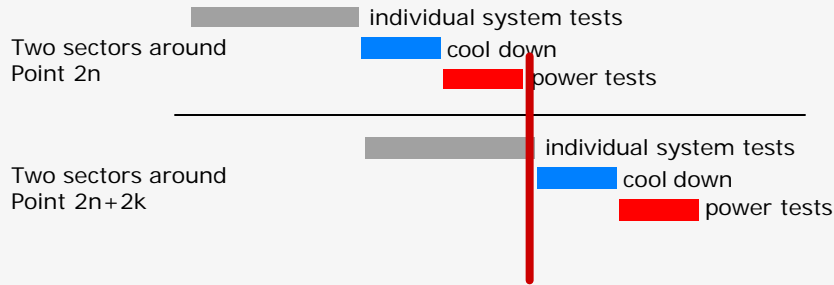


the teams





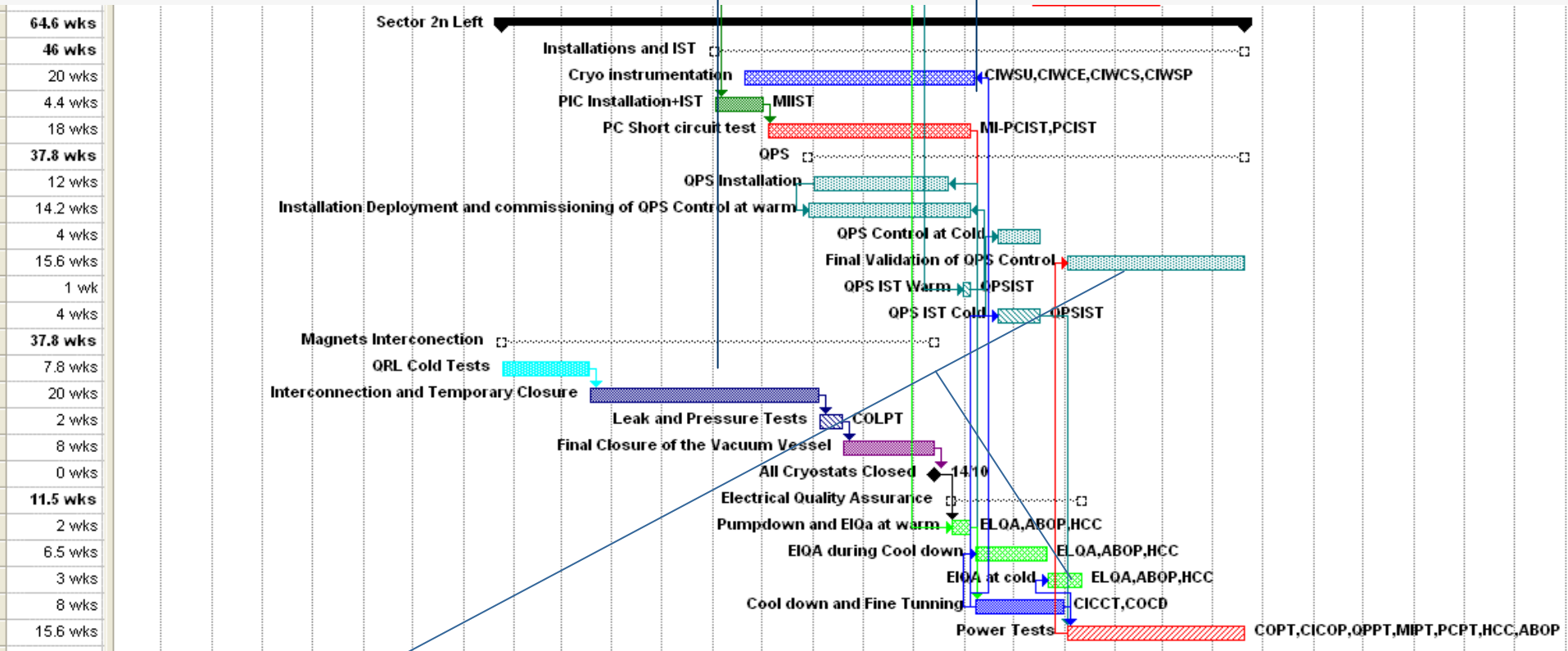
the increased parallelism





a closer look ...

23 weeks



tests at cold

cool down

powering tests



the teams

individual
system
tests

cryo instrumentation
interlocks
quench protection
electrical quality assurance
power converters

cool down

cryo process tuning
cryo instrumentation
electrical quality assurance

power tests

cryo operation
interlocks
quench protection
power converters
circuits

"external support"

- complete teams** with the responsibility of a task or
- specialists** to be integrated in CERN teams

Number:	LHC-PM-MR-0002	ver.1.0
EDMS Id:	503580	
Released		

a new version is
in preparation

Resources for Hardware Commissioning

[Simon Baird](#), [Frederick Bordry](#), [Bertrand Frammery](#), [Karl-Hubert Mess](#), [Roberto Saban](#), [Laurent Tavian](#), [Juan Casas-Cubillos](#), [Paulo Gomes](#), [Félix Rodríguez-Matéos](#), [Bruno Puccio](#), [Rüdiger Schmidt](#), [Luigi Serio](#), [Markus Zerlauth](#)

Management Report
2004-11-16

PUBLIC



employment conditions

- ❑ Project Associate
 - Conditions from the Rules & Regulations of CERN
 - ❑ the Project Associate must **remain a regular employee of the home institution**
 - ❑ the home institute must declare that it pays **at least 30% of the salary**
 - ❑ the home institute is legally responsible for matters such as **social security valid in the Geneva area**, complementary health schemes are paid by the individual
 - Salary
 - ❑ CERN pays 4000 CHF to bachelors and 5000 to married Project Associates. This is to be considered as an **allowance intended to cover cost of living in the Geneva area**.
NB the spouse must accompany him/her to Geneva for at least six months and she/he must not have any income in the Geneva area
 - Length of Stay
 - ❑ Employment period of **one year renewable** three times
- ❑ Other arrangements exist, but are more difficult to obtain



For the period of detachment Project Associates **must remain regular employees of an external (non-commercial) institution**, that, as their employer, is legally responsible for matters such as social security valid in the Geneva area. **Project associates are requested to keep a significant fraction of the net home salary (at least 30%) and it needs to be guaranteed that they return to their Institution at the end of the period of service at CERN.** If their Institute does not insure them for medical purposes and/or for disability/death arising from working accidents, the Project Associates must take out such an insurance at their own cost during the association contract with CERN.

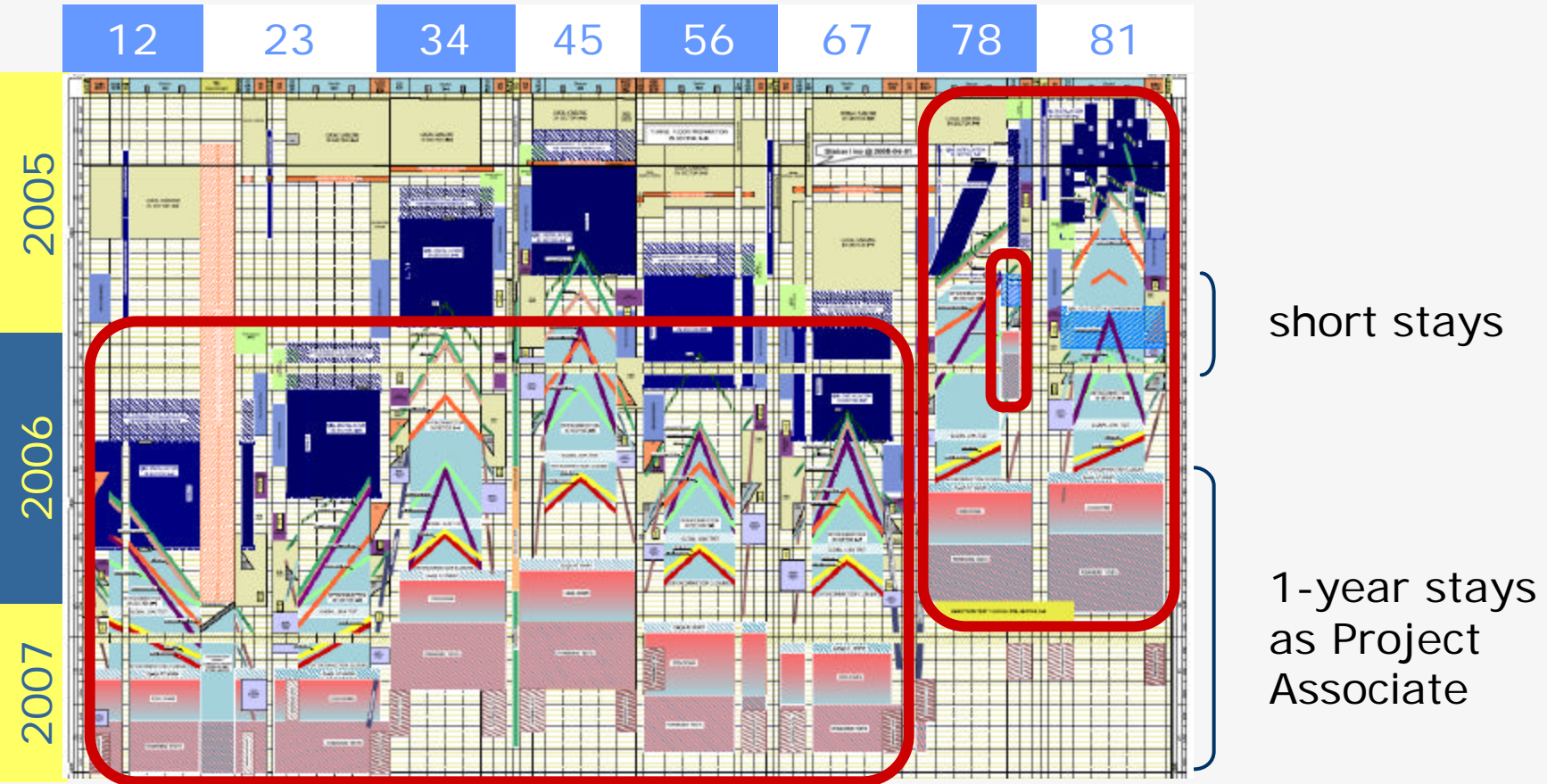


CERN is not the employer of PJAS and is therefore not responsible for the payment of salary and the provision of social insurance. **The employing institute is responsible for making sure that the required insurance cover is in place, either directly through the Project Associate (who may procure the required cover in the CERN region prior to the start of his/her association with CERN) or through the employing institute.** The employing institute is liable to CERN for any cost or expense resulting from the situation where any part of the insurance cover is not in place.

In view of the cost of living in the CERN region, **CERN may pay a daily subsistence allowance to the Project Associate, in addition to the salary paid by the employing institute.** The subsistence allowance will normally be the standard subsistence allowance for associated members of the personnel (4000 CHF/month in 2004).



the stays



It would be better if the specialists who participate to the short stay for the commissioning of the inner triplet left of 8, come for a one year stay.



Roadmap

short stays

mechanical
engineer(s)

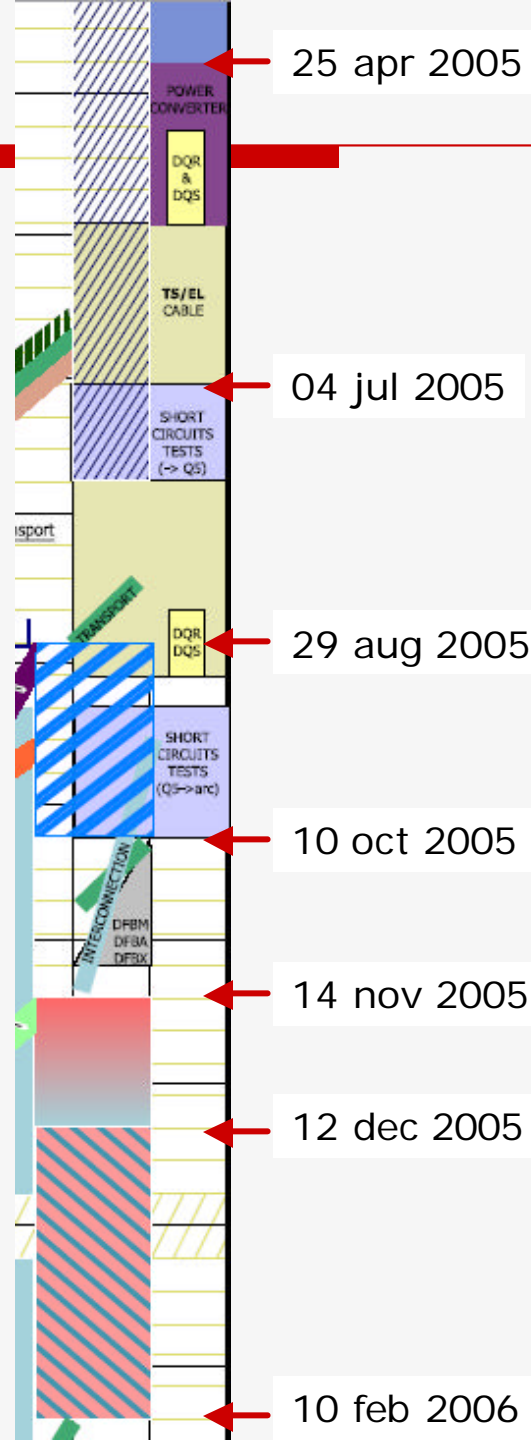
2 months

cryo
engineer

2 months

electrical
engineer

3 months



Installation of power
converters

Cabling

Short circuit tests

QRL cold tests

Interconnects

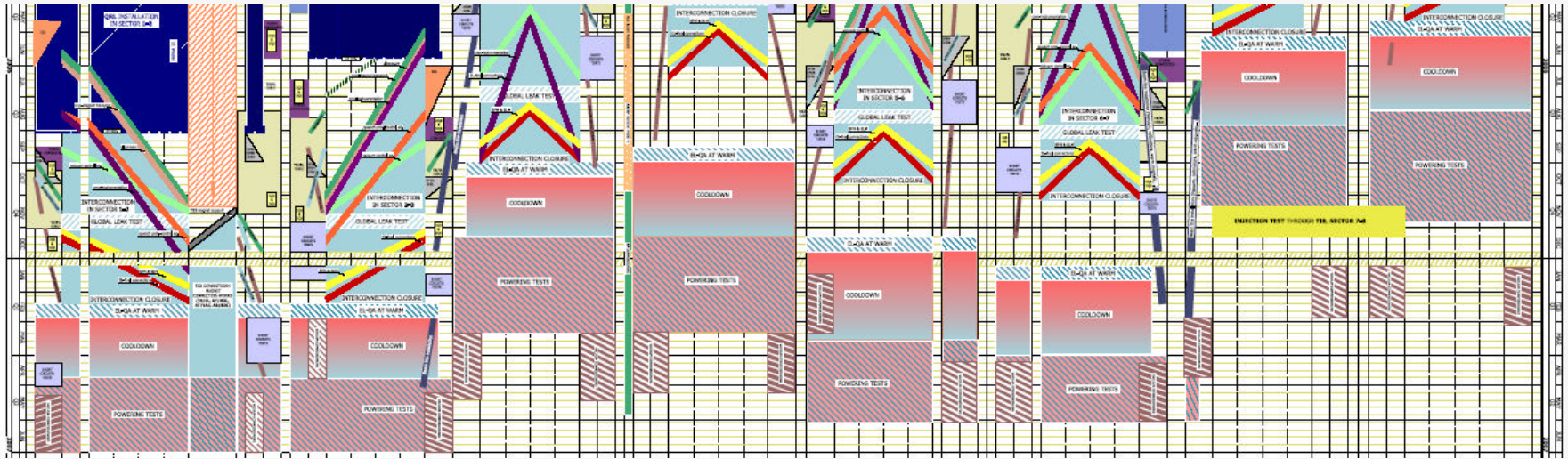
Cooldown

Power tests



Roadmap

long stays



□ we need help for

- the commissioning of the cryogenic system
 - process tuning ★
 - instrumentation commissioning T
- the commissioning of the electrical circuits
 - interlocks T
 - quench protection T
 - electrical circuits ★

1-year stay as Project Associate during the period May 2006 to July 2007